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             Concetti, Antonio
             Houghton, Alan
             Venanzi, Franco Maria

<120>   Compositions and Methods for Synergistic
             Induction of Antitumor Immunity

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<151>   2003-11-13

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SEQ 1/15

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SEQ 2/15

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Ile Leu Asp Lys Ser Gly Ser Val Leu His His Trp Asn Glu Ile
               50                  55                      60
Tyr Tyr Phe Val Glu Gln Leu Ala His Arg Phe Ile Ser Pro Gln
               65                  70                      75
Leu Arg Met Ser Phe Ile Val Phe Ser Thr Arg Gly Thr Thr Leu
               80                  85                      90
Met Lys Leu Thr Glu Asp Arg Glu Gln Ile Arg Gln Gly Leu Glu
               95                 100                     105
Glu Leu Gln Lys Val Leu Pro Gly Gly Asp Thr Tyr Met His Glu
              110                 115                     120
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Gly Tyr Arg Thr Ala Ser Val Ile Ile Ala Leu Thr Asp Gly Glu
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Phe Asn Glu Thr Gln Leu Ala Arg Ile Ala Asp Ser Lys Asp His
              185               190               195
Val Phe Pro Val Asn Asp Gly Phe Gln Ala Leu Gln Gly Ile Ile
              200               205               210
His Ser Ile Leu Lys Lys Ser Cys Ile Glu Ile Leu Ala Ala Glu
              215               220               225
Pro Ser Thr Ile Cys Ala Gly Glu Ser Phe Gln Val Val Val Arg
              230               235               240
Gly Asn Gly Phe Arg His Ala Arg Asn Val Asp Arg Val Leu Cys
              245               250               255
Ser Phe Lys Ile Asn Asp Ser Val Thr Leu Asn Glu Lys Pro Phe
              260               265               270
Ala Val Glu Asp Thr Tyr Leu Leu Cys Pro Ala Pro Ile Leu Lys
              275               280               285
Glu Val Gly Met Lys Ala Ala Leu Gln Val Ser Met Asn Asp Gly
              290               295               300
Leu Ser Phe Ile Ser Ser Ser Val Ile Ile Thr Thr Thr His Cys
              305               310               315
Ser Asp Gly Ser Ile Leu Ala Ile Ala Leu Leu Val Leu Phe Leu
              320               325               330
Leu Leu Ala Leu Ala Leu Leu Trp Trp Phe Trp Pro Leu Cys Cys
              335               340               345
Thr Val Ile Ile Lys Glu Val Pro Pro Pro Val Glu Glu Ser
              350               355               360
Glu Glu Glu Asp Asp Asp Gly Leu Pro Lys Lys Lys Trp Pro Thr
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Val Asp Ala Ser Tyr Tyr Gly Gly Arg Gly Val Gly Gly Ile Lys
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Arg Met Glu Val Arg Trp Gly Glu Lys Gly Ser Thr Glu Glu Gly
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Ala Lys Leu Glu Lys Ala Lys Asn Ala Arg Val Lys Met Pro Glu
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Gln Glu Tyr Glu Phe Pro Glu Pro Arg Asn Leu Asn Asn Asn Met
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Arg Arg Pro Ser Ser Pro Arg Lys Trp Tyr Ser Pro Ile Lys Gly
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SEQ 5/15

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Thr Thr Leu Met Lys Leu Thr Glu Asp Arg Glu Gln Ile Arg Gln
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Gly Leu Glu Glu Leu Gln Lys Val Leu Pro Gly Gly Asp Thr Tyr
              80                85                  90
Met His Glu Gly Phe Glu Arg Ala Ser Glu Gln Ile Tyr Tyr Glu
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Asn Ser Gln Gly Tyr Arg Thr Ala Ser Val Ile Ile Ala Leu Thr
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Val Lys Asp Phe Asn Glu Thr Gln Leu Ala Arg Ile Ala Asp Ser
            155                 160                 165
Lys Asp His Val Phe Pro Val Asn Asp Gly Phe Gln Ala Leu Gln
            170                 175                 180
Gly Ile Ile His Ser Ile Leu Lys Lys Ser Cys Ile Glu Ile Leu
            185                 190                 195
Ala Ala Glu Pro Ser Thr Ile Cys Ala Gly Glu Ser Phe Gln Val
            200                 205                 210
Val Val Arg Gly Asn Gly Phe Arg His Ala Arg Asn Val Asp Arg
            215                 220                 225
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SEQ 7/15

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<211> 564

<212> PRT

<213> artificial sequence

<220>

<223> amino acid sequence for human TEM8

<400> 5

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Met Ala Thr Ala Glu Arg Arg Ala Leu Gly Ile Gly Phe Gln Trp
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Leu Ser Leu Ala Thr Leu Val Leu Ile Cys Ala Gly Gln Gly Gly
               20                  25                 30
Arg Arg Glu Asp Gly Gly Pro Ala Cys Tyr Gly Gly Phe Asp Leu
               35                  40                 45
Tyr Phe Ile Leu Asp Lys Ser Gly Ser Val Leu His His Trp Asn
               50                  55                 60
Glu Ile Tyr Tyr Phe Val Glu Gln Leu Ala His Lys Phe Ile Ser
               65                  70                 75
Pro Gln Leu Arg Met Ser Phe Ile Val Phe Ser Thr Arg Gly Thr
               80                  85                 90
Thr Leu Met Lys Leu Thr Glu Asp Arg Glu Gln Ile Arg Gln Gly
               95                 100                105
Leu Glu Glu Leu Gln Lys Val Leu Pro Gly Gly Asp Thr Tyr Met
              110                 115                120
His Glu Gly Phe Glu Arg Ala Ser Glu Gln Ile Tyr Tyr Glu Asn
              125                 130                135
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Arg Gln Gly Tyr Arg Thr Ala Ser Val Ile Ile Ala Leu Thr Asp
            140             145             150
Gly Glu Leu His Glu Asp Leu Phe Phe Tyr Ser Glu Arg Glu Ala
            155             160             165
Asn Arg Ser Arg Asp Leu Gly Ala Ile Val Tyr Cys Val Gly Val
            170             175             180
Lys Asp Phe Asn Glu Thr Gln Leu Ala Arg Ile Ala Asp Ser Lys
            185             190             195
Asp His Val Phe Pro Val Asn Asp Gly Phe Gln Ala Leu Gln Gly
            200             205             210
Ile Ile His Ser Ile Leu Lys Lys Ser Cys Ile Glu Ile Leu Ala
            215             220             225
Ala Glu Pro Ser Thr Ile Cys Ala Gly Glu Ser Phe Gln Val Val
            230             235             240
Val Arg Gly Asn Gly Phe Arg His Ala Arg Asn Val Asp Arg Val
            245             250             255
Leu Cys Ser Phe Lys Ile Asn Asp Ser Val Thr Leu Asn Glu Lys
            260             265             270
Pro Phe Ser Val Glu Asp Thr Tyr Leu Leu Cys Pro Ala Pro Ile
            275             280             285
Leu Lys Glu Val Gly Met Lys Ala Ala Leu Gln Val Ser Met Asn
            290             295             300
Asp Gly Leu Ser Phe Ile Ser Ser Ser Val Ile Ile Thr Thr Thr
            305             310             315
His Cys Ser Asp Gly Ser Ile Leu Ala Ile Ala Leu Leu Ile Leu
            320             325             330
Phe Leu Leu Leu Ala Leu Ala Leu Leu Trp Trp Phe Trp Pro Leu
            335             340             345
Cys Cys Thr Val Ile Ile Lys Glu Val Pro Pro Pro Pro Ala Glu
            350             355             360
Glu Ser Glu Glu Glu Asp Asp Asp Gly Leu Pro Lys Lys Lys Trp
            365             370             375
Pro Thr Val Asp Ala Ser Tyr Tyr Gly Gly Arg Gly Val Gly Gly
            380             385             390
Ile Lys Arg Met Glu Val Arg Trp Gly Glu Lys Gly Ser Thr Glu
            395             400             405
Glu Gly Ala Lys Leu Glu Lys Ala Lys Asn Ala Arg Val Lys Met
            410             415             420
Pro Glu Gln Glu Tyr Glu Phe Pro Glu Pro Arg Asn Leu Asn Asn
            425             430             435
Asn Met Arg Arg Pro Ser Ser Pro Arg Lys Trp Tyr Ser Pro Ile
            440             445             450
Lys Gly Lys Leu Asp Ala Leu Trp Val Leu Leu Arg Lys Gly Tyr
            455             460             465
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Asp Arg Val Ser Val Met Arg Pro Gln Pro Gly Asp Thr Gly Arg
                470             475             480
Cys Ile Asn Phe Thr Arg Val Lys Asn Asn Gln Pro Ala Lys Tyr
                485             490             495
Pro Leu Asn Asn Ala Tyr His Thr Ser Ser Pro Pro Pro Ala Pro
                500             505             510
Ile Tyr Thr Pro Pro Pro Pro Ala Pro His Cys Pro Pro Pro Pro
                515             520             525
Pro Ser Ala Pro Thr Pro Pro Ile Pro Ser Pro Pro Ser Thr Leu
                530             535             540
Pro Pro Pro Pro Gln Ala Pro Pro Pro Asn Arg Ala Pro Pro Pro
                545             550             555
Ser Arg Pro Pro Pro Arg Pro Ser Val
                560
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<210>   6

<211>   24

<212>   DNA

<213>   artificial sequence

<220>

<223>   Sense strand oligonucleotide sequence to
         make pVAXXCDneu.

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<210>   7

<211>   24

<212>   DNA

<213>   artificial sequence

<220>

<223>   Antisense strand oligonucleotide sequence to
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```
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    <211>      25
    <212>      DNA
    <213>      artificial sequence


    <220>

    <223>      Sense strand oligonucleotide sequence to
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```
    <210>      9
    <211>      25
    <212>      DNA
    <213>      artificial sequence


    <220>

    <223>      Antisense strand oligonucleotide sequence
               to amplify TEM8 cDNA.


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```

```
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    <211>      36
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<212>      DNA

<213>      artificial sequence


<220>

<223>      FWKpnIm8 sense strand oligonucleotide
           sequence to clone 28-278 amino acid
           sequence of TEM8.


<400>      10
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<210>.     11
<211>      34
<212>      DNA
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<220>

<223>      RVEcoRIm8 antisense strand oligonucleotide
           sequence to clone 28-278 amino acid of TEM8.


<400>      11
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<210>      12
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<220>

<223>      attB1bis oligonucleotide sequence to amplify
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SEQ 14/15

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<211>      51
<212>      DNA
<213>      artificial sequence

<220>
<223>      attB2bis oligonucleotide sequence to amplify
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c                                                         51
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